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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,501	03/15/2004	Kevin A. Seiling	01-180 CIP	9350
30058	7590	10/18/2006	EXAMINER	
COHEN & GRIGSBY, P.C. 11 STANWIX STREET 15TH FLOOR PITTSBURGH, PA 15222			VO, HAI	
			ART UNIT	PAPER NUMBER
			1771	

DATE MAILED: 10/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/800,501 Hai Vo	SEILING, KEVIN A. Art Unit 1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 07 August 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,2,4 and 6-44 is/are pending in the application.
- 4a) Of the above claim(s) 9-17 and 25-33 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1, 2, 4, 6-8, 18-24 and 34-44 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The art rejections over Detterman (US 5,789,453) in view of Andres (Des 426,320) have been withdrawn in view of the present response. The combined teachings of the applied references do not suggest the internal closed cells define 30% to 70% of the composite volume based on the hollow profile as shown in Andres.
2. The provisional obviousness-type double patenting (ODP) rejections have been overcome in view of the terminal disclaimer.
3. The art rejections over Detterman (US 5,789,453) in view of Nystrom (US 5,474,831) are maintained.

Terminal Disclaimer

4. The terminal disclaimer filed on 08/07/2006 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of copending application 10/001,730 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1, 2, 4, 6-8, 18-24, 34-44 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time

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the application was filed, had possession of the claimed invention. Support for the bottom surface, top surface, first side surface and second side surface defining volume wherein the internal closed cells defines 30% to 70% of the volume is not fully found in the specification of the present invention. The specification discloses the internal closed cells occupying 30% to 70% volume of the composition, not 30% to 70% volume of the profile.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The presence of ethylene vinyl acetate carrier material is not consistent with the closed language "consisting of" as described in claim 1.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1, 2, 4, 6-8, 34, 40-42 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Detterman (US 5,789,453) in view of Nystrom (US 5,474,831).
Detterman discloses a foam material for use in construction material having a substantially closed cell structure (column 4, lines 5-7). Likewise, it is clearly

apparent that the foam of Detterman having predominantly closed cell structure. Detterman discloses the foam made from chlorinated PVC and glass fibers (abstract, column 11, lines 64-65). Since PVC set forth in the claims includes both chlorinated PVC and non-chlorinated PVC, the chlorinated PVC of Detterman reads on Applicant's PVC. Detterman does not specifically disclose the shape of the foam material. Nystrom, however, teaches a construction member comprising a top surface, a concave bottom surface, a first side surface, and a second side surface. The first and second side surfaces are substantially orthogonal to the top surface (figure 2). Nystrom discloses the concave surface of the bottom surface defining a continuous art between the first side surface and second side surface. Nystrom teaches the deck plank having four rounded corners. Nystrom discloses the deck plank having a shape similar to the shape of the deck plank of the present invention. Thus, it is not seen that the combined teachings of Detterman and Nystrom could not have achieved the internal closed cells defining 30% to 70% of the composite volume as like material has like property. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the construction material having the shape as taught by Nystrom motivated by the desire to shed water from its upper surface and facilitate stacking of the boards one on top of the other during storage and handling (column 2, lines 10-19).

Detterman discloses the foam composition comprising a pvc with the amount within the claimed range (table 1). Detterman discloses the glass fiber added with an effective amount for the intended purpose (column 12, lines 9-13). Detterman

does not specifically disclose the amount of the glass fiber. Therefore, in the absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the glass fiber with an amount instantly claimed motivated by the desire to increase the mechanical strength of the foam material. This is in line with *In re Aller*, 105 USPQ 233, which holds that discovering the optimum or workable ranges involves only routine skill in the art.

Detterman discloses the blowing agent being sodium bicarbonate and azodicarbonamide. Detterman discloses the amount of the blowing agent can be varied to obtain the desired specific gravity of the foam material (column 12, lines 30-34). Detterman does not specifically disclose the amount of the blowing agent. Therefore, in the absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the blowing agent with an amount instantly claimed motivated by the desire to obtain the desired specific gravity of the foam material. This is in line with *In re Aller*, 105 USPQ 233, which holds that discovering the optimum or workable ranges involves only routine skill in the art.

Neither Detterman nor Nystrom teaches or suggests the processing steps recited in the claims. However, it is a product-by-process limitation not as yet shown to produce a patentably distinct article. It is the examiner's position that the article of Detterman as modified by Nystrom is identical to or only slightly different than the claimed article prepared by the method of the claim, because both articles are

formed from the same materials, having structural similarity (see discussion above). Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or an obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289,291 (Fed. Cir. 1983). It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Detterman/Nystrom.

Nystrom does not teach the deck plank wherein the radius of the arc of the bottom surface is not less than 50 inches. However, since the arc radius is recognized as a result-effective variable, differences in arc radius will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such particle size is critical or provides unexpected results. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the decking having the bottom surface defining an arc with the radius in the range instantly claimed motivated by the desire to facilitate

stacking of the boards one on top of the other during storage and handling. This is in line with *In re Aller*, 105 USPQ 233, which holds that discovering the optimum or workable ranges involves only routine skill in the art.

11. Claims 35-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Detterman (US 5,789,453) in view of Nystrom (US 5,474,831) as applied to claim 34 above, further in view of Koffler et al (US 6,818,676). Detterman does not teach the use of the physical blowing agent. Koffler, however, teaches a foam composition for use in fencing having a specific gravity up to 0.9 and made from a physical blowing agent such as nitrogen, CO₂, CFC and butanes (column 7, line 60 to column 8, lines 1-20, column 15, lines 5-10). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the physical blowing agent for the chemical blowing agent to generate the voids of the foam material because physical blowing agent and physical blowing agent have been shown in the art to be recognized equivalent blowing agents for the void formation of the construction materials.

12. Claims 40-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Detterman (US 5,789,453) in view of Nystrom (US 5,474,831) as applied to claim 34 above, further in view of Patterson et al (US 6,784,230). Detterman does not teach the amount of the blowing agent and the use of citric acid as a blowing agent. Patterson, however, teaches a foam composition for use in fencing comprising up to 3% by weight of the blowing agent such as citric acid (column 10, lines 25-26, and column 4, lines 57-58). Therefore, it would have been obvious to one having

ordinary skill in the art at the time the invention was made to use the chemical blowing agent in the amount instantly claimed motivated by the desire to obtain the desired specific gravity of the foam material.

13. Claims 18, 19, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Detterman (US 5,789,453) in view of Nystrom (US 5,474,831) and Guntherberg et al (US 6,566,436). Detterman does not specifically disclose the glass fiber diameter. Guntherberg, however, teaches a molded article for use in fencing comprising reinforcing glass fibers with the fiber diameter in the range from 6 to 20 microns (column 12, lines 1-2). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the glass fiber with the fiber diameter as taught by Guntherberg motivated by the desire to obtain an ease of processing and handling of the materials in addition to increasing the mechanical strength of the foam material.

14. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Detterman (US 5,789,453) in view of Nystrom (US 5,474,831) and Guntherberg et al (US 6,566,436) as applied to claim 18, further in view of Koffler et al (US 6,818,676). Detterman does not teach the use of the physical blowing agent. Koffler, however, teaches a foam composition for use in fencing having a specific gravity up to 0.9 and made from a physical blowing agent such as nitrogen, CO₂, CFC and butanes (column 7, line 60 to column 8, lines 1-20, column 15, lines 5-10). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the physical blowing agent for the chemical

blowing agent to generate the voids of the foam material because physical blowing agent and chemical blowing agent have been shown in the art to be recognized equivalent blowing agents for the void formation of the construction materials.

15. Claims 18-21, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Detterman (US 5,789,453) in view of Nystrom (US 5,474,831) and Ittel (US 2005/0058822). Detterman does not specifically disclose the length and the size of the glass fiber. Ittel, however, teaches a foam composition for use in fencing comprising reinforcing glass fibers with the fiber length in the range from 0.001 to 0.03 microns or 25 to 762 microns [0038], [0078]. Ittel teaches the glass fibers having an L/D aspect ratio from 20 to 1000 [0037]. Likewise, the glass fiber has a fiber diameter in the range overlapping with the claimed range. It appears that the bulk density of the glass fiber is dictated by the fiber size and fiber length. Therefore, it is not seen that the bulk density would be outside the claimed range as the fiber size and fiber length are within the claimed ranges. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the glass fiber with the length, size and the bulk density as taught by Ittel motivated by the desire to obtain an ease of processing and handling of the materials in addition to increasing the mechanical strength of the foam material.

16. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Detterman (US 5,789,453) in view of Nystrom (US 5,474,831) and Ittel (US 2005/0058822) as applied to claim 18, further in view of Koffler et al (US 6,818,676). Detterman does not teach the use of the physical blowing agent. Koffler, however, teaches a foam

composition for use in fencing having a specific gravity up to 0.9 and made from a physical blowing agent such as nitrogen, CO₂, CFC and butanes (column 7, line 60 to column 8, lines 1-20, column 15, lines 5-10). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the physical blowing agent for the chemical blowing agent to generate the voids of the foam material because physical blowing agent and physical blowing agent have been shown in the art to be recognized equivalent blowing agents for the void formation of the construction materials.

Response to Arguments

17. The art rejections based on Detterman and Nystrom have been maintained for the following reasons. Applicant argue that none of the applied references teach or suggest a deck plank made of a composite of a polymeric material consisting of PVC. The examiner respectfully disagrees. The PVC as described in the claims does not exclude an embodiment wherein the composite polymeric material consisting of CPVC because PVC generically includes both non-chlorinated PVC and CPVC. Applicant argues that CPVC and PVC are recognized in the art as different compositions. The arguments are not found persuasive for patentability because the differences between them are not incorporated into the claims. Applicant may use the “consisting of” language to exclude a tin stabilizer which is a required component of the Detterman composition from a presently claimed composite material.

Applicant argues that there is no suggestion in Koffler as to how the composition could be used on constructing deck planks or how the blowing agents therein described could be combined with other compositions that are used in deck planks. The examiner respectfully disagrees. Koffler teaches a foam composition for use in fencing which is the same technical field with which Detterman is concerned. Koffler teaches a foam composition having a specific gravity up to 0.9 and made from a physical blowing agent such as nitrogen, CO₂, CFC and butanes (column 3, lines 25-26, column 7, lines 50-67). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the physical blowing agent for the chemical blowing agent to generate the voids of the foam material because physical blowing agent and chemical blowing agent have been shown in the art to be recognized equivalent blowing agents for the void formation of the construction materials.

Applicant argues that the combination of Detterman and Patterson is improper because Patterson teaches a composition wherein vinyl chloride resin is combined with a cellulosic material. The examiner respectfully disagrees. Patterson and Detterman both teach a foam composition for use in fencing. Patterson teaches the foam composition comprising up to 3% by weight of the blowing agent such as citric acid (column 10, lines 25-26, and column 4, lines 57-58). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the chemical blowing agent in the amount instantly claimed motivated by the desire to obtain the desired specific gravity of the foam material.

There is a motivation to combine the teachings of Detterman and Patterson and the combination of references does suggest a reasonable expectation of success. Thus the combined teachings make out a *prima facie* case of obviousness. Similarly, Detterman, Gunterberg and Ittel relate to a composition that could serve as fencing material. Ittel teaches a foam composition comprising reinforcing glass fibers with the fiber length in the range from 0.001 to 0.03 microns or 25 to 762 microns [0038], [0078]. Ittel teaches the glass fibers having an L/D aspect ratio from 20 to 1000 [0037]. Likewise, the glass fiber has a fiber diameter in the range overlapping with the claimed range. It appears that the bulk density of the glass fiber is dictated by the fiber size and fiber length. Therefore, it is not seen that the bulk density would be outside the claimed range as the fiber size and fiber length are within the claimed ranges.

Conclusion

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on Monday through Thursday, from 9:00 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



HAI VO
PRIMARY EXAMINER

HV